Federal Communications Commission Future of Media Proceeding
Public Comment
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The crying girl aroused suspicion among the residents of Davis, California with her sob story that her boyfriend (or mother) had thrown her out of the house, and she needed money to buy a train (or bus) ticket home.

On the local community wiki, one person wrote he had seen her crying twice. Another added that he'd seen her sobbing as well. A third person took a photo of her, and a fourth posted it on Facebook and asked the people in her social network to help identify the woman. They found the woman's Facebook page, which showed a photo of the pretty young blonde holding beauty pageant trophies, along with a MySpace photo showing her with some of her accomplices. Soon dozens of amateur sleuths were at work, listing a license plate number for her getaway car, detailing their encounters with her, creating a flier warning of her swindle, and explaining how to make a police report.

The campaign to identify the woman worked in large part because DavisWiki is arguably the most successful local wiki in America, with one out of every seven people in that city using it on any given day. It is the dominant media source in town, occupying the same psychic space in residents' minds as Craiglist—only centered around information instead of transactions.

That Crying Girl investigation—which has since been featured in local television, The New York Times, Gawker, and Boing Boing—illustrated a principle long discussed: that communities, given the right tools, can be effective in informing themselves about what they are most interested in. And in some cases, communities can generate better information than legacy media.

This has been well discussed in theory, but now we're seeing it in practice. The question to ask is can deep-rooted social interrooted transform an industry as it has in other areas, such as games.

In some areas, local residents can provide better coverage than legacy media ever could for two reasons: first, because they can get into the nitty-gritty topics that don't pass the threshold for broader interest, and second, because they can discuss their suspicions before there have firm proof. The grifter story would have been very difficult for a newspaper or television station to do—because of how piecemeal the victims were, because of the modesty of the swindles, and because of the standards of evidence demanded by mainstream media. This is a level of information above neighborhood gossip and below formal media.

I write from my own observations, and not in any official capacity. I worked as a *New York Times* reporter for nine years, covering technology, crime, and Washington. I also worked as a *New York Times* City blogger for two years. More recently, I've seen

the cutting edge of journalistic ideas working as the lead reviewer for the 2010 Knight News Challenge, which received 2,300 applications, one-third of which were international.

Here are a few trends I have observed:

• **Communities are organizing and informing themselves using open-source, free, and low-cost infrastructure.** In content, there are two sides to the money equation: revenues and costs. If Internet revenues are modest (as they largely have been thus far for most content), then costs must be driven down as well. Low-cost, robust infrastructure is critical to that equation. We've already seen the explosion of the first-generation of open-source blogging and content platforms—WordPress and Drupal—but now we're seeing that ethos migrate to mapping, wiki software, and local mailing lists systems.

This energetic creation is part of the intrinsic generosity that has been unleashed in our networked world, as Clay Chirky notes in his latest book, *Cognitive Surplus: Creativity and Generosity in a Networked Age*. For many people, it is inherently validating to see code you've written to solve a problem downloaded 10,000 times by people who have the same problem—even if you don't earn money for it (though that would be nice too).

WordPress and Drupal have become standards on the Web in large part because of unpaid contributions from their vibrant communities of users and developers. Even Whitehouse.gov is built using Drupal. And the WordPress and Drupal communities spill off the Internet into physical conferences and local Meetups, countering some of the "Bowling Alone" phenomenon described by sociologist Robert Putnam. There is a sense of connectedness that comes from belonging to and being an active contributor to a community.

We're seeing that philosophy develop, albeit on a smaller scale, with projects that are designed from the ground up to be open-source and broadly usable. Ushahidi, a crowd-sourced mapping platform that grew out of the 2008 Kenya riots, has now been used for the Haiti earthquake, the Washington Snowmaggedon blizzard, and the BP Gulf oil spill. OpenStreetMap is a worldwide wiki database of geographic information that was founded in 2006 and positions itself as a a community-building tool and as a contrast to commercial options. DavisWiki of Davis, California and RocWiki of Rochester, New York are both lively community wikis that have gained critical mass, not only because of technology but also because of a push toward local organizing.

Foundations and companies have also attempted to catalyze open infrastructure. Ushahidi received $1.2 million from the Omidyar Network. Aol announced in July that they were dedicating $1 million to stimulate OpenStreetMap in the United States, which has lagged behind Europe on the project. The Knight Foundation gave a number of grants to help build out open-source software tools targeted at communities, including a $350,000 grant to the founders of DavisWiki to write a LocalWiki platform that incorporates mapping capabilities and a $220,000 grant to

Front Porch Forum, a Vermont neighborhood email list provider that has achieved 40 percent penetration in the state's largest city of Burlington. Leveraging the power of community organizing, the LocalWiki organizers just raised over $25,000 via the creative crowdsourced funding platform, Kickstarter.

Among the open-source tools we still haven't seen in the United States:

• A well-designed crowd-sourced translation platform that allows for the aggregation of translated materials around the Internet. The highly successful Yeeyan.com, a company from China, which uses game mechanics to encourage people to translate articles from English to Chinese, shows the potential of such a platform.

• Easy-to-use, open-source mobile apps for community publications, such as hyperlocal blogs—the equivalent of WordPress, but for mobile. Right now, development a basic application costs several thousand dollars, if not well into the five figures. Sachmanya, a Sunnyvale, Calif.-based company which makes mobile frameworks, is interested in making their Web version open source.

• A tool or platform that transforms the thousands of vibrant neighborhood email lists, that are often on Yahoo or Google groups, into a more robust news and information platform. It has to have broadcast capability, many-to-many communication structure, and structured data. Easy-to-use group mailing lists were cutting edge circa 2002, but we have progressed much further since then.

• **Videos, photos, and documents are increasingly becoming discrete, consumable units of primary-source journalism.** This past February, the Polk Awards gave a prize to an anonymous videographer for footage of a young Iranian woman who was fatally shot during the Tehran protests in June 2009. Also known as the Neda video, it was reposted and remixed hundreds of times on the Internet. Essentially, the very traditional Polks recognized that citizens are creating notable news content, not necessarily through reporting so much as through disseminating witness experiences. Despite the hubbub around citizen journalism, citizens are not, on average, great at journalism, but they *are* good conduits for raw material—photos, videos, documents, and databases. People carry digital devices that can be pulled out to record photos or videos, and they can easily copy digital files onto a thumb drive. (Compare this to the months of covert photocopying that Daniel Ellsberg did for the 7,000 pages of the Pentagon Papers in 1969.)

It is the encroachment of Little Brother, rather that Big Brother, that average Americans are more likely to feel in their day-to-day lives. This has implications for accountability journalism that we are already beginning to see today.

As controversial as WikiLeaks may be, it has become the most visible manifestation of primary source journalism, or what the editor Julian Assange refers to as "scientific journalism," in which public source material can be independently verified by others. Among the documents the site released were documents from Iceland's Kaupthing Bank showing highly questionable banking practices, leading to voter

outrage; the Guantanamo Bay manual; a video showing a 2007 airstrike in Baghdad; and the database of half a million pager messages sent on September 11, 2001.

But people who don't need the cover of anonymity can also choose to release primary source material directly onto the Internet. In 2004, Americans witnessed a chilling new perspective on the war thanks to photos of military coffins that Russ Kick received through a Freedom Information Act request.

Primary source materials can have powerful effects even on a local scale. Video of a Washington DC police officer pulling a gun at a snowball fight in December 2009 contradicted the department's official account that the officer had never drawn his gun. And recent cell phone footage of a Houston teacher beating a 13-year-old student led to the teacher's termination. Such materials can provide a check on figures in power. A New York City police officer, for example, was convicted of lying and framing a bicyclist when video showed that it was the officer who had pushed the cyclist in July 2008 in Times Square, and not the other way around.

I myself was caught up in a confrontation between Barcelona's riot police and civilians in the late hours after Spain's World Cup championship on July 11, 2010. It was stunning to see how many people were recording the confrontations with their cell phones—including me. If the police had overstepped their bounds in any way, that footage would have quickly circulated. And police officers know this, which may keep them in check.

• **People are increasingly using mapping and data visualizations to consume and create civic information**. Over the last several years, there has been an explosion of open-source mapping tools up and down the "map stack," as the different layers of mapping infrastructure are known. This has given programmers the ability to create increasingly sophisticated maps that can be targeted at local needs.

As I mentioned earlier, OpenStreetMap (openstreetmap.org) is creating a free worldwide geographic database of information. It was launched in 2006 out of frustration at the British government's tight control of mapping information. While it is only a few years old, it has the potential to provide better coverage than for-profit mapping services, especially in areas of little commercial interest, such as parts of the developing world. The Kibera slums of Nairobi, for example, generally rendered as a grey block on Google Maps, have now being charted out under the MapKibera project.

Washington DC-based DevelopmentSeed created an open-source tool, called TileMill, so people can build their own custom maps, which can contain local information ranging from bike routes to the location of trees to census data. Employees from the San Francisco-based Stamen Design released the highly popular Modestmaps.com, an open-source toolkit with a friendly click-and-drag interface similar to that of Google Maps. The whole mapping ecosystem feeds and builds off itself, with a strong open-source ethos.

Data visualization, which had previously been confined largely to academia and design, is also emerging as a force in the civic sphere. Such developments could help solve the "last mile" problem. The transparency push is inspiring governments and organizations to make lots of information available, but there are limited palatable ways to consume that information. For example, there is a significant difference between seeing a list of bicycle accident locations in Seattle and actually clustering the accidents on a map, as *The Seattle Times* did recently using a free service called Tableau Public. MIT Professor David Karger's research group also created an open source data visualization toolkit, called Exhibit framework, that could create timelines and interactive maps. In turn these tools were picked up by *The Tampa Tribune* and *The San Francisco Chronicle*, to the research group's surprise. While the original author of the framework is David Francois Huynh, it is now maintained by the open sources.

As these tools become freely available, however, the danger is visualizing data for the sake of visualizing data. To serve the public, a good interactive data visualization should do three things: tell a story, allow users to ask their own questions, and start a conversation.

• **Mobile civic engagement apps will emerge**. Within the next few years, we should expect to see a break-out civic mobile app, with which a critical mass of people will "check in" with comments, photos, and complaints about their local community. Instead of broadcasting to a pre-defined list—say, friends on Facebook or followers on Twitter—the information will be tied to geographic locations.

There is already activity in this space: Blockchalk, a mobile app that allows people to leave public "notes" tagged to certain blocks or neighborhoods locations; SeeClickFix, which allows people to register complaints about potholes or graffiti; and CitySeed, a mobile app funded by the Knight News Challenge that allows people to build off each other's civic suggestions.

However, it is still unclear when and how there will be a breakthrough of large-scale engagement. Perhaps it will be built on the geo-location tools offered by Facebook or Twitter. Perhaps it will be an extension of Craigslist, whose brand is already associated with local community. Perhaps Foursquare and Gowalla will move from a social space to a civic space. Perhaps an interoperable geotagging standard will emerge so many applications can pull from the same data pool.

• **Public libraries will play a role.** As communities self-organize to inform themselves, public libraries are emerging to help coordinate and seed such activity—contrary to predictions about the demise of the public library in the face of the Internet. For example, the Georgia library system is in discussions with OpenStreetMap to equip local libraries with GPS devices and to train local librarians on mapping. Libraries are also natural entities to partner with when seeding a local wiki.

Libraries have free space for meetings. They often have infrastructure for training. They are part of the government, but not generally part of politics. Many libraries

have become the default for public Internet access and wifi. Library staff are trained in thinking about the organization of information. And thanks in large part to Andrew Carnegie's efforts, libraries are a nearly ubiquitous fixture in communities large and small, urban and rural. Libraries have a local presence, yet can be coordinated through a national and state-level framework. The American Library Association has over 60,000 members and is a force to be reckoned with, and many states, including Pennsylvania, have highly active librarian organizations. The downside is that not all staff is yet as savvy as they need to be with the new technologies.

Conclusion

Professionals still often fret about amateur efforts in the journalistic sphere. Where would people find the time to make a quality project? Won't it be slipshod? But in many cases, a technology does not have to be perfect, but simply "good enough," for the public to gravitate toward it and for it to have impact.

Amateur efforts have been astoundingly powerful when a group of motivated people find a structure to harness their efforts. Wikipedia has taken over 100 million hours of manpower to create. As Clay Shirky has pointed out, that sounds like a stunning amount of time until you realize that Americans watch 250 billion—that is billion—hours of television each year. Our television habits consume 4,000 times worth of Wikipedia work per year. Or to put it another way, American watch 100 million hours worth of commercials in a single weekend. But now Americans are now taking some of their cognitive surplus and channeling it back into their communities.

Community information will likely look very different in the future compared to the models we have today. The downsides of the disruptive change are already obvious: fewer reporters watching those in power and less thoughtful explanatory journalism. The upsides, thus far, are less obvious.

But it is worth recognizing that art had a very different business model during the Renaissance. Patrons, whether the Catholic church or rich merchants, had specific interests in great artworks, an interest those of us in subsequent generations benefit from. Today, it's not likely we would create another Sistine Chapel financed by the Catholic Church's patronage. Instead, we briefly had Jean Claude and Christo's "The Gates," financed by the artists' own business savvy and public consumption of the brand. For better or worse, art has become much more ever-present, commercial, and mass market.

Also, experiencing a seismic shift? Journalism and the ways communities inform themselves. Different realities are created by the underlying forces of an era: different institutions, different nexuses of power, different access for average individuals, different degrees of professionalization, different business models, and different levels of excellence.

But there are ways for government to help in a way that does not raise the hackles of the fourth estate. Often the impulse is to conceptualize government support as

dictating content, or exerting some control over the institutions. But similar to how government has invested in basic scientific and technological research (including that which led to the Internet), government can help stimulate the creation of low-cost civic-minded open-source infrastructure. There are programming fellowships that can be awarded, interoperable standards to help establish, grants to give away, and legal frameworks to set up.

Google Summer of Code, where college students get stipends to work on credentialed open source projects for the summer, and Code for America, analogous to Teach for America but for municipal information technology infrastructure, are interesting models for the public sector to examine as a potential model.

There is a role for government: it can catalyze the frameworks without interfering with the independence of the press that is our national heritage.